

# **WEB DESIGN I: DESIGN METHODOLOGY TECHNOLOGY**

## Curriculum Content Frameworks

**Please note: All assessment questions will be taken from the knowledge portion of these frameworks.**

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# Curriculum Content Frameworks

## WEB DESIGN I: DESIGN METHODOLOGY TECHNOLOGY

Grade Levels: 10, 11, 12  
Course Code: 492650

Prerequisite:

Course Description: Web Design I: Design Methodology Technology is the first level of Web Page Design, and it prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic Web design and the dynamics of networking/internetworking, Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web Page Design and construction industry. Further, this course provides for and directly maps to the Certified Internet Webmaster "Foundations" national certification examination.

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# Unit 1: Web Design Process

## Hours: 3

Terminology: Blog, Graphical user interface (GUI), Instant messaging (IM), Interactivity, Needs analysis, Project creep, Project schedule, Push technology, Stakeholder, Statement of Work (SOW), Web services, Wiki site

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS				
What the Student Should be Able to Do		What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
1.1	Define terminology	1.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
1.2	Identify elements of the Web site development process	1.2.1	Examine job responsibilities and tasks of a Web designer or Web development team member	Foundation	Writing	Applies/Uses technical words and concepts [1.6.4]  Organizes information into an appropriate format [1.6.10]  Uses technical words and symbols [1.6.20]
		1.2.2	Demonstrate the collaborative nature of a Web development project	Interpersonal	Teamwork	Contributes to group with ideas, suggestions, and effort [2.6.2]  Works effectively with others to reach a common goal [2.6.6]
		1.2.3	Develop a Web site vision statement			
		1.2.4	Develop a site strategy and identify strategy implementation tactics			
		1.2.5	Prepare a project evaluation, including acceptance, documentation, summary of technologies used, and project style guidelines	Personal Management	Career Awareness, Development, and Mobility	Explores career opportunities [3.1.6]
		1.2.6	Create a Web page and site templates that fulfill design specifications	Thinking	Creative Thinking	Uses imagination to create something new [4.1.1]  Combines ideas or information in a new way [4.1.2]
		1.2.7	Compare and connect site project implementation factors (includes stakeholder input, time frame, scope, desired functionality, and required technologies)			
		1.2.8	Complete a Web project plan, including development timetable, site rollout plan		Decision Making	Comprehends ideas and concepts related to the Web site development process [4.2.2]
		1.2.9	Examine Web site characteristics (e.g., interactivity, navigation, database integration) and the project resources they require		Seeing Things in the Mind's Eye	Organizes and processes images – symbols, pictures, graphs, objects, etc. [4.6.2]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application		Skill Group	Skill	Description
1.3 Identify customer expectations with Web site project and design	1.3.1	Relate customer needs and usability with site design principles and aesthetics (includes distinguishing site design customer from site audience)	Foundation	Writing	Prepares a complex document in a concise manner [1.6.12]
	1.3.2	Explain potential customer expectations and feedback	Interpersonal	Customer Service	Comprehends ideas and concepts related to customer expectations [2.3.2]
					Works with customers to satisfy their expectations [2.3.9]
	1.3.3	Recommend plans and progress used to regularly ensure that completed project meets stakeholder/customer expectations	Thinking	Decision Making	Generates options/alternatives [4.2.6]
	1.3.4	Classify changes in project scope (includes scope creep)			
	1.3.5	Examine changes in development plans			
	1.3.6	Prepare project tracking report			

## Unit 2: Web Site Layout

### Hours: 2

Terminology: Asymmetrical balance, Dithering, Metaphor, Mindmapping, Pixel, Radial balance, Symmetrical balance

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application		Skill Group	Skill	Description
2.1 Define terminology	2.1.1 Prepare a list of terms with definitions		Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
2.2 Identify Web design principles in order to evaluate and develop a site's aesthetic qualities and its ability to enhance viewer experience	2.2.1 Apply the mindmapping process to structure a Web site		Foundation	Arithmetic/Mathematics	Uses quantitative data to construct logical explanations for real world situation [1.1.39]
	2.2.2 Explain design goals appropriate for the business/organization represented by the site and the site's intended audience			Reading	Applies/Understands technical words that pertain to subject [1.3.6]  Comprehends written specifications and applies them to a task [1.3.9]
	2.2.3 Show a site metaphor				Determines what information is needed [1.3.10]
	2.2.4 Examine site design and architecture specifications			Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
	2.2.5 Examine branding on the Web site		Thinking	Creative Thinking	Combines ideas or information in a new way [4.1.2]  Creates new design by applying specified criteria [4.1.3]
	2.2.6 Classify and use common Web page design and layout elements (includes color, space, font size, and style, lines, logos, symbols, picturogrms, images, and stationary features)			Decision Making	Evaluates information/data to make best decision [4.2.5]
	2.2.7 Compare ways that design helps and hinders audience participation (includes target audience, stakeholder expectations, and cultural issues)			Problem Solving	Devises and implements a plan of action to resolve problem [4.4.3]
	2.2.8 Design space and content to create a visually balanced page or site that presents a coherent, unified message (includes symmetry, asymmetry, and radial balance)			Reasoning	Uses logic to draw conclusions from available information [4.5.6]

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
	<p>2.2.9 Analyze the use of color to introduce variety, stimulate users, and emphasize messages.</p> <p>2.2.10 Examine design strategies to control a user's focus on a page</p> <p>2.2.11 Recommend strategies and tools visual consistency to Web pages and site (includes style guides, page templates, image placement, and navigation aids)</p> <p>2.2.12 Examine a site's message, culture, and tone (professional, casual, formal, informal) using images, colors, fonts, and content style</p> <p>2.2.13 Modify unnecessary elements that distract from a page's message</p> <p>2.2.14 Design a plan to make Web content printer-friendly</p> <p>2.2.15 Design for screen resolution issues in online content</p> <p>2.2.16 Explain audience and end-user capabilities (includes lowest common denominator in usability)</p> <p>2.2.17 Experiment with hexadecimal values to specify colors in X/HTML</p> <p>2.2.18 Use image colors to determine effectiveness in various cultures</p>	Thinking	Seeing Things in the Mind's Eye	Visualizes a finished product [4.6.4]

## Unit 3: Web Site Usability and Accessibility

### Hours: 1

Terminology: Section 508 of the Rehabilitation Act, Web Accessibility Initiative (WAI)

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
3.1 Define terminology	3.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]	
3.2 Identify issues that affect Web site usability	3.2.1 Examine audience usability tests	Foundation	Writing	Analyzes data, summarizes results, and makes conclusions [1.6.2]	
	3.2.2 Classify and apply user-accessibility standards and laws, including W3C, WAI/WCAG, ADA Section 508, and International standards	Thinking	Problem Solving	Comprehends ideas and concepts related to Web site usability [4.4.1]  Revises plan of action indicated by findings [4.4.9]	
	3.2.3 Connect common user-accessibility challenges and solutions				
	3.2.4 Analyze site testing (functionality, usability, and browser compatibility)				
	3.2.5 Explain accessibility issues and solutions related to Web images and animation (includes text-reader capability, and captioning)				
	3.2.6 Perform site testing (functionality, usability, and browser compatibility)				



## Unit 4: Browsers and Navigation Concepts

### Hours: 2

Terminology: ActiveX control, Blacklist, Pop-up, Site map, Uniform Resource Locator (URL)

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS				
What the Student Should be Able to Do		What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
4.1	Define terminology	4.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
4.2	Identify Web design principles to enable navigation, usability, and accessibility	4.2.1	Examine Web site hierarchy/architecture concepts (includes appropriate page depth for content)	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
		4.2.2	Explain common navigation conventions		Writing	Analyzes data, summarizes results, and makes conclusions [1.6.2]
		4.2.3	Decide upon and apply a navigation action plan	Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]
		4.2.4	Examine site strategies and technologies to avoid, including pop-up windows, single-browser sites, and spam			
		4.2.5	Explain functionality of pop-up/pop-under windows (includes creation, benefits, disadvantages, reasons to omit from your site)			

## Unit 5: Web Graphics and Multimedia

### Hours: 2

**Terminology:** Graphics Interchange Format (GIF), Joint Photographic Experts Group (JPEG), MPEG-1 Audio Layer-3 (MP3), Portable Network Graphics (PNG), Raster graphics, Scalable Vector Graphics (SVG), Vector graphics

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS				
What the Student Should be Able to Do		What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
5.1	Define terminology	5.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
5.2	Identify image files and use images in X/HTML pages and site design	5.2.1	Explain the difference between vector and raster graphic types	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		5.2.2	Use appropriate image file formats, including browser-compatibility issues and lowest common denominator in audience usability (includes GIF 87a, GIF 89a, JPEG, JPEG 2000, PNG, BMP)	Thinking	Decision Making	Comprehends ideas and concepts related to X/HTML pages and site design [4.2.2]
5.3	Identify multimedia and plug-in technologies to enhance a Web site3	5.3.1	Examine multimedia Web design principles, and choose appropriate multimedia technologies for a site based on usability criteria	Thinking	Decision Making	Comprehends ideas and concepts related to multimedia and plug-in technologies [4.2.2]

## Unit 6: Ethical and Legal Issues in Web Development

### Hours: 1

Terminology: Copyright, Fair use, Intellectual property, Licensing, Mailing list server, Opt-in e-mail, Opt-out e-mail, Patent, Public domain, Spam, Spam filter, Trademark

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
6.1 Define terminology	6.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
6.2 Identify ethical and legal issues relevant to Web development and design	6.2.1 Analyze the difference between legal and ethical issues  6.2.2 Discover using Web content text, graphics, code properly, including original content, misleading/inaccurate information, copyrighted content, licensing, and avoiding infringement  6.2.3 Examine site strategies and technologies to avoid, including pop-up windows, single-browser sites, and spam  6.2.4 Explain strategies to avoid violating end-user privacy and trust (includes refusing to share or sell end-user information, opt-in/opt-out for mailing lists)  6.2.5 Explain privacy disclaimers appropriate to site purpose and audience  6.2.6 Explain international legal issues, including fair use, trademarks, and contracts  6.2.7 Examine nature and purpose of site content (includes audience appropriateness, intended vs. unintended audience, potentially offensive content vs. legal content, and global and cultural perspectives)	Personal Management	Integrity/Honesty/Work Ethic	Chooses ethical course of action [3.2.1]  Follows established rules, regulations, and policies [3.2.5]

## Unit 7: HTML, XML, XHTML and the Evolution of Markup

**Hours: 2**

Terminology: Document type declaration (<!DOCTYPE>), Extensible Hypertext Markup Language (XHTML), Extensible Markup Language (XML), Extensible Stylesheet Language Transformation (XSLT), Hyperlink, Hypertext markup Language (HTML), Metalanguage, Tags, World Wide Consortium (W3C)

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS			
What the Student Should be Able to Do		What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
7.1 Define terminology	7.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]	
7.2 Identify basic HTML and XHTML (X/HTML) to develop a series of Web pages	7.2.1 Explain the origins of HTML and XHTML, X/HTML standards, and distinguish among X/HTML versions	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]	
	7.2.2 Use X/HTML code to create a static Web page with text and images	Thinking	Writing	Applies/Uses technical words and concepts [1.6.4]  Uses technical words and symbols [1.6.20]	
	7.2.3 Use X/HTML to apply design principles and layout elements (including fonts, space, colors, lines, images) to Web pages		Creative Thinking	Uses imagination to create something new [4.1.1]	
	7.2.4 Examine non-standard X/HTML code and the ways that proprietary code affects Web development		Decision Making	Comprehends ideas and concepts related to basic HTML and XHTML code [4.2.2]	
	7.2.5 Explain Extensible Markup Language (XML), and distinguish XML from HTML and XHTML				
	7.2.6 Explain and create a "well-formed" XML document				

## Unit 8: Web Page Structure – Tables and Framesets

### Hours: 1

Terminology: Dynamic, Frame, Frameset

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS				
What the Student Should be Able to Do		What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
8.1	Define terminology	8.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
8.2	Identify Web design principles to enable navigation, usability, and accessibility	8.2.1	Create X/HTML tables to appropriately format data (includes table design)	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		8.2.2	Create X/HTML framesets (include simple nested, combines, inline), and target frames correctly	Thinking	Creative Thinking	Creates new design by applying specified criteria [4.1.3]
		8.2.3	Explain common user-accessibility challenges and solutions		Decision Making	Comprehends ideas and concepts related to X/HTML tables and framesets [4.2.2]
					Seeing Things in the Mind's Eye	Organizes and processes images – symbols, pictures, graphs, objects, etc. [4.6.2]

## Unit 9: Cascading Style Sheets

### Hours: 1

Terminology: Cascading style sheets, Inheritance, Inline style, Style guide, Style sheet,

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
9.1 Define terminology	9.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
9.2 Identify Web design principles to evaluate and develop a site's aesthetic qualities and its ability to enhance viewer experience	9.2.1 Show ways to apply Web page formatting with Cascading Style Sheets (CSS1 and CSS2) using various methods (includes linking, embedding, inline), and use style sheets to simplify Web site design	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
	9.2.2 Create an external style sheet and link it to an X/HTML document	Thinking	Writing	Uses technical words and symbols [1.6.20]
	9.2.3 Explain strategies and tools for visual consistency to Web pages and site (includes style guides, page templates, image placement, and navigation aids)		Creative Thinking	Creates new design by applying specified criteria [4.1.3]
			Reasoning	Applies rules and principles to a new situation [4.5.1]

## Unit 10: Site Content and Metadata

### Hours: 1

Terminology: Metadata

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS			
What the Student Should be Able to Do		What the Instruction Should Reinforce			
Knowledge	Application	Skill Group	Skill	Description	
10.1 Define terminology	10.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]	
10.2 Use X/HTML and extended technologies to enhance Web page structure, format, and usability	10.2.1 Develop or obtain written consent that conveys the site's message, including clear and concise writing, professional editing, style guides, consistency, jargon, voice, and tone	Foundation	Writing	Composes and creates documents – letters, manuals, reports, proposals, graphs, flow charts, etc. [1.6.8]	
	10.2.2 Add metadata tags and content to X/HTML documents to influence search engine placement (includes refining <meta> tags in existing pages)	Thinking	Creative Thinking	Combines ideas or information in a new way [4.1.2]	

## Unit 11: Site Development with Microsoft FrontPage

### Hours: 3

Terminology: Dynamic HTML (DHTML), FrontPage themes

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
11.1 Define terminology	11.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
11.2 Discuss Web pages that use GUI site development applications	11.2.1 Connect site development using X/HTML text editors using GUI site management applications  11.2.2 Use site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional  11.2.3 Apply adding images to web pages and create image maps using GUI site development applications  11.2.4 Apply text, tables, and hyperlinks to Web pages using GUI site development applications  11.2.5 Create Web forms using GUI site development applications  11.2.6 Create page and site templates using GUI site development applications  11.2.7 Apply CSS to page and site templates using GUI site development applications  11.2.8 Apply page and site templates to new pages using GUI site development applications	Thinking	Creative Thinking  Decision Making	Combines ideas or information in a new way [4.1.2]  Comprehends ideas and concepts related to GUI site development applications [4.2.2]



CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
	11.2.9 Discover and validate source code using GUI site development applications  11.2.10 Use GUI site development applications to enforce compliance with accessibility standards  11.2.11 Experiment with adding search capability to a Web site			

## Unit 12: Site Development with Dreamweaver

### Hours: 3

Terminology: Absolute positioning, Behaviors, Dreamweaver, Dreamweaver Assets and Library, Dreamweaver Exchange, Jump menu, Layers, Z-index

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
12.1 Define terminology	12.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
12.2 Identify Web pages that use GUI site development applications	12.2.1 Use site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional	Foundation	Writing	Applies/Uses technical words and concepts [1.6.4]
	12.2.2 Add images to web pages and create image maps using GUI site development applications	Thinking	Creative Thinking	Uses imagination to create something new [4.1.1]  Identifies new goals and objectives [4.1.8]
	12.2.3 Apply text, tables, and hyperlinks to Web pages using GUI site development applications		Decision Making	Evaluates information/data to make best decision [4.2.5]
	12.2.4 Create Web forms using GUI site development applications			
	12.2.5 Create page and site templates using GUI site development applications			
	12.2.6 Apply CSS to page and site templates using GUI site development applications			
	12.2.7 Apply page and site templates to new pages using GUI site development applications			
	12.2.8 Discover and validate source code using GUI site development applications			
	12.2.9 Use GUI site development applications to enforce compliance with accessibility standards			
	12.2.10 Create rollover images on a Web page			

## Unit 13: Web Pages with Homesite 5.5

### Hours: 1

Terminology: HomeSite, Link-verification wizard, Tag Chooser, Tag Completion

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
13.1 Define terminology	13.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
13.2 Identify basic HTML and XHTML (X/HTML) to develop a series of Web pages	13.2.1 Identify X/HTML code to create a static Web page with text and images	Foundation	Reading	Uses appropriate materials and techniques as specified [1.3.20]
		Thinking	Knowing How to Learn	Applies new knowledge and skills to HTML and XHTML (X/HTML) code [4.3.1]
13.3 Identify image files, and the use of images in X/HTML pages and site design	13.3.1 Insert image files in Web pages using X/HTML	Foundation	Reading	Uses appropriate materials and techniques as specified [1.3.20]
		Thinking	Knowing How to Learn	Applies new knowledge and skills to image files and images [4.3.1]
13.4 Identify Web sites using GUI site development applications	13.4.1 Compare and connect site development using X/HTML text editors to using GUI site management applications	Foundation	Reading	Uses appropriate materials and techniques as specified [1.3.20]
	13.4.2 Explain site development applications to develop W3C-compliant code, including XHTML 1.0 Transitional	Thinking	Speaking  Knowing How to Learn	Communicates a thought, idea, or fact in spoken form [1.5.5]  Applies new knowledge and skills to identify Web sites using GUI site development applications [4.3.1]

## Unit 14: Image Editing with Fireworks

### Hours: 1

Terminology: Fireworks, Slices

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
14.1 Define terminology	14.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
14.2 Examine image files in Fireworks	14.2.1 Use image-editing software to create functional images that complement your page/site  14.2.2 Perform common image manipulation functions (includes cropping, rasterizing, adding text to existing images, modifying height/width dimensions, modifying resolution, and choosing bit depths)  14.2.3 Create transparent and animated images (includes GIF and PNG)  14.2.4 Create image layers; insert image files in Web pages	Foundation    Thinking	Reading  Science  Creative Thinking  Reasoning	Uses appropriate materials and techniques as specified [1.3.20]  Applies knowledge to complete a practical task [1.4.3]  Uses imagination to create something new [4.1.1]  Comprehends ideas and concepts related to Fireworks [4.5.2]

## Unit 15: Multimedia with Flash

### Hours: 5

Terminology: .fla, ActionScript 2.0, Blank keyframe, Flash, Flash Library, Guide layer, Keyframe, Mask, Motion tween, Normal frame, Onion skins, Shape tween, ShockWave-Flash (SWF), Symbols, Timeline, Tweening

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
15.1 Define terminology	15.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
15.2 Use multimedia and plug-in technologies to enhance a Web site	15.2.1 Examine Shockwave-Flash (SWF) technology features (includes animation, streaming, timelines, and layers) and authoring software	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]  Comprehends written specifications and applies them to a task [1.3.9]  Uses appropriate materials and techniques as specified [1.3.20]
	15.2.2 Use SWF-authoring software to create animations, add buttons, perform "tweening", create movie clips, and apply masks	Thinking	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
	15.2.3 Explain Scalable Vector Graphics (SVG) characteristics (includes XML-based, two-dimensional, searchable, scalable, and zoom support)		Creative Thinking	Uses imagination to create something new [4.1.1]
	15.2.4 Experiment with adding SWF animation files and SVG files to X/HTML pages		Knowing How to Learn	Applies new knowledge and skills to multimedia and plug-in technologies [4.3.1]
	15.2.5 Explain strategies and benefits of using SWF and SVG technologies in training industry/instructional design to facilitate			
	15.2.6 Apply plug-in/viewer technology to Web pages to support various file types industry/instructional design to facilitate (includes Portable Document Format [PDF], Scalable Vector Graphics [SVG], and Flash SWF technologies)			

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
15.3 Identify client-side and server-side programming to enhance Web site functionality	15.3.1 Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Thinking	Reasoning	Applies rules and principles to a new situation [4.5.1]
	15.3.2 Use JavaScript to detect browsers, redirect pages, preload pages, and confirm user choices			Sees relationship between two or more ideas, objects, or situations [4.5.5]

## Unit 16: JavaScript and DHTML Fundamentals

### Hours: 1

Terminology: Alert( ) method, Concatenation, Document Object Model (DOM), Dot notation, Dynamic HTML (DHTML), Event, Function, Java, JavaScript, Method, Object, Open( ) method, Platform independence, Prompt( ) method, Property, Sniffer

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
16.1	Define terminology	16.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
16.2	Identify client-side and server-side programming to enhance Website functionality	16.2.1	Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]  Comprehends written specifications and applies them to a task [1.3.9]  Uses appropriate materials and techniques as specified [1.3.20]
		16.2.2	Explain common JavaScript objects, properties, and methods	Thinking	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		16.2.3	Use JavaScript to detect browsers, redirect pages, preload pages, and confirm user choices		Creative Thinking	Uses imagination to create something new [4.1.1]
		16.2.4	Use JavaScript dot notation to access X/HTML objects		Knowing How to Learn	Applies new knowledge and skills to identifying client-side and server-side programming [4.3.1]
		16.2.5	Create rollover images on a Webpage using scripting technology		Reasoning	Applies rules and principles to a new situation [4.5.1]  Sees relationship between two or more ideas, objects, or situations [4.5.5]
		16.2.6	Explain Dynamic HTML (DHTML) and the technologies it requires, and identify browser-specific DHTML code for use with Microsoft Internet Explorer, Netscape, and Mozilla			
		16.2.7	Use XML to create a basic Web application (e.g., Really Simple Syndication [RSS] newsfeed)			

## Unit 17: Plug-Ins and Java Applets

### Hours: 1

Terminology: Downloadable file, Java, Java applets, Plug-in, Portable Document Format (PDF), Stream

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
17.1 Define terminology	17.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
17.2 Use multimedia and plug-in technologies to enhance a Web site	17.2.1 Create an X/HTML link to a downloadable file	Thinking	Creative Thinking	Creates new design by applying specified criteria [4.1.3]
	17.2.2 Create rich media streaming ads and compare them to conventional online ads (includes considering bandwidth limitations)		Knowing How to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]
	17.2.3 Examine Java applet functionality, and create an animated applet for display on a Web site			



## Unit 18: HTTP Servers, Web Applications, and Database

### Hours: 2

Terminology: Apache server, Common Gateway Interface (CGI), Cookie, Database Management System (DBMS), DELETE statement, Domain Name System (DNS), Fields, INSERT statement, Menu query, Microsoft SQL server, Open Database Connectivity (ODBC), Oracle, Query by example, Query language, Really Simple Syndication (RSS), Records, Relational DBMS (RDBMS), Schema, Secure XML, SELECT statement, Structured Query Language (SQL), UPDATE statement

CAREER and TECHNICAL SKILLS		ACADEMIC and WORKPLACE SKILLS				
What the Student Should be Able to Do		What the Instruction Should Reinforce				
Knowledge		Application		Skill Group	Skill	Description
18.1	Define terminology	18.1.1	Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
18.2	Identify client-side and server-side programming to enhance Website functionality	18.2.1	Connect and contrast client-side and server-side technologies used to create dynamic content for Web pages	Thinking	Knowing How to Learn  Reasoning	Uses available resources to acquire new skills or improve skills [4.3.4]  Applies rules and principles to a new situation [4.5.1]  Sees relationship between two or more ideas, objects, or situations [4.5.5]
18.3	Identify client-side and server-side programming to enhance Website functionality	18.3.1	Explain how XML is used to create a basic Web application (e.g., Really Simple Syndication [RSS], newsfeed)	Foundation	Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
		18.3.2	Explain Secure XML		Writing	Evaluates written information for appropriateness/content/clarity [1.6.9]
		18.3.3	Explain how Common Gateway Interface (CGI) is used to process Web Forms	Thinking	Reasoning	Comprehends ideas and concepts related to identifying client-side and server-side programming [4.5.2]
		18.3.4	Explain the use of cookies to enhance Web site functionality			

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
18.4 Identify how to connect Web pages to a database	18.4.1 Explain the elements of a database and their functionality	Foundation	Listening	Comprehends ideas and concepts related to databases [1.2.1]
	18.4.2 Explain general database query types		Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
	18.4.3 Explain the three Database Management System (DBMS) types	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
	18.4.4 Compare information types that can be contained in a database, including X/HTML, images, XML, and inventories			
	18.4.5 Connect to a Web page to a database using various methods			

## Unit 19: Web Site Publishing and Maintenance

### Hours: 1

Terminology: Brute-force attacks, Denial-of-service (DOS) attacks, File Transfer Protocol (FTP), Social engineering

CAREER and TECHNICAL SKILLS What the Student Should be Able to Do		ACADEMIC and WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	Application	Skill Group	Skill	Description
19.1 Define terminology	19.1.1 Prepare a list of terms with definitions	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]  Applies/Understands technical words that pertain to subject [1.3.6]
19.2 Identify how to publish and maintain a production Web site	19.2.1 Explain how to use a staging/mockup server to test a site (includes advantages, hardware/software choices, and configurations)	Foundation	Listening	Comprehends ideas and concepts related to publishing and maintaining a production Web site [1.2.1]
	19.2.2 Compare in-house Web site hosting to hosting with an Internet Service Provider (ISP) or Application Service Provider (ASP)		Science	Applies knowledge to complete a practical task [1.4.3]
	19.2.3 Publish a Web site using an FTP client		Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
	19.2.4 Create and configure Domain Name System (DNS) entries (includes subdomains, and shared domains)	Thinking	Creative Thinking	Uses imagination to create something new [4.1.1]
	19.2.5 Explain site security issues, including attacks (social engineering, denial of service, and brute force) and ways to thwart them		Decision Making	Evaluates information/data to make best decision [4.2.5]
	19.2.6 Explain how to maintain a Web site (includes user feedback, and auto and manual link checking)		Reasoning	Applies rules and principles to a new situation [4.5.1]
	19.2.7 Show how to document changes to a site			

# **Glossary**

## **Unit 1: Web Design Process**

1. Blog – a collection of personal thoughts posted on a public Web site. Blogging is that act of adding entries to a blog
2. Graphical user interface (GUI) – a program that provides graphical navigation with menus and screen icons
3. Instant messaging (IM) – a computer-based method of communication in which users can type and view messages sent to one or more recipients, and view the responses immediately
4. Interactivity – the ability for software to respond differently to the user's actions; the system's response is directly communicated to the user
5. Needs analysis - the process of determining of a customer's needs by acquiring information, processing and evaluating the information, then creating a plan of action to address the needs
6. Project creep – gradual increases in project scope that can undermine the success of a project
7. Project schedule – a document that lists the planned dates for performing tasks and meeting goals defined in a project plan
8. Push technology – a Web delivery format that allows Web page content to automatically download to a computer at user-defined intervals
9. Stakeholder – a person or group with an interest in a project and the power to exert influence (either positive or negative) over the project and affect results
10. Statement of Work (SOW) – a contract to initiate to a project; the contract contains project goals and specifies how those goals will be met
11. Web services – a group of XML-based technologies and open standards that enable computers with various platforms and software to exchange data and share functionality over the Web
12. Wiki site – collaborative Web site that uses Web-based Wiki software to allow visitors to update the site using only a browser; useful for team collaboration, information repositories and portals

## Unit 2: Web Site Layout

1. Asymmetrical balance – a balance that is created when a single object on one side of the page is balanced by a number of smaller (or more lightly colored or weighted) objects on the other side
2. Dithering – the ability for a computer to approximate a color by combining the RGB values
3. Metaphor – the suggestion or a likeness or pre-existing identification with other things or experiences
4. Mindmapping – a process that allows you to structure ideas on paper in the order your brain follows, rather than the linear process normally used when documenting ideas
5. Pixel – short for "picture element"; a unit of measure that represents a minimum amount of graphical information as a single dot on a display screen
6. Radial balance – a balance that is created when elements on the page radiate or spiral out from a central point
7. Symmetrical balance – a balance that is created when all elements on one side of the page are mirrored on the other

## **Unit 3: Web Site Usability and Accessibility**

1. Section 508 of the Rehabilitation Act – an act that requires that all electronic and information technology developed, procured, maintained or used by federal agencies be comparably accessible to users with disabilities
2. Web Accessibility Initiative (WAI) – an initiative that aims to ensure that core technologies used on the Web, such as HTML, CSS, XML and DOM, are equally accessible to users with physical, visual, hearing, and cognitive disabilities

## Unit 4: Browsers and Navigation Concepts

1. ActiveX control – technology owned by Microsoft and supported by the Internet Explorer browser that can be used to enable interactive content on the Web
2. Blacklist – a published list of IP addresses known to be sources of spam
3. Pop-up – additional browser window that can be launched automatically and often contains unsolicited content
4. Site map – a graphical representation of a Web site's hierarchy
5. Uniform Resource Locator (URL) – a text string that supplies an Internet or intranet address, and the protocol by which that site can be accessed

## Unit 5: Web Graphics and Multimedia

1. Graphics Interchange Format (GIF) – a platform-independent file format that is limited to a display of 256 colors
2. Joint Photographic Experts Group (JPEG) – this graphics file format can contain up to 24 bits of color information and work well for photographs
3. MPEG-1 Audio Layer-3 (MP3) – a popular compression standard for audio files; retains most of the sound quality for the source
4. Portable Network Graphics (PNG) – the new graphics file format used primarily for Web graphics
5. Raster graphics – small dots are used to create images and colors
6. Scalable Vector Graphics (SVG) – a vector graphic format that is scalable
7. Vector graphics – information about the image is stored in mathematical instructions that are interpreted and displayed



## Unit 6: Ethical and Legal Issues in Web Development

1. Copyright – legal protection of original works of authorship
2. Fair use – a doctrine that allows the use of copyrighted material for purposes such as criticism, reporting, teaching and research
3. Intellectual property – ideas and products of the mind
4. Licensing – a legal contract that allows you to use another author's content, dictated by the author's terms
5. Mailing list server – an e-mail server that regularly sends e-mail messages to a specified list of users; list servers can also collect and distribute messages from an authorized group of participants, called a listserv group
6. Opt-in e-mail – an e-mail list service that is created legitimately by subscribing only users who specifically request to be added to the list
7. Opt-out e-mail – an e-mail list service that requires subscribers to unsubscribe themselves if they do not want to continue receiving messages; opt-out is implied for opt-in e-mail services, although it is often used in unsolicited e-mailing lists to give the appearance that recipients requested their addition (opted-in) to the list
8. Patent – legal protection of inventions
9. Public domain – content that is not copyrighted, or for which the copyright has expired; any work that is in the public domain may be used freely by anyone for any purpose
10. Spam – unsolicited and unwanted e-mail messages; the online equivalent of junk mail
11. Spam filter – an e-mail client program that identifies and filters out spam messages before they reach the e-mail inbox
12. Trademark – legal protection of names, phrases, images or sounds that a company uses to distinguish itself from the competition

## Unit 7: HTML, XML, XHTML and the Evolution of Markup

1. Document type declaration (<!DOCTYPE>) - a declaration of document or code type embedded within an HTML, XHTML, SML or SGML document; identifies the version and nature of code used; denoted by the <!DOCTYPE> tag at the beginning of the document
2. Extensible Hypertext Markup Language (XHTML) – the current standard authoring language used to develop Web pages and other electronically displayed documents; XHTML requires stricter code syntax than HTML
3. Extensible Markup Language (XML) – a markup language that describes document content, instead of adding structure or formatting to a document content; a simplified version of SGML
4. Extensible Stylesheet Language Transformation (XSLT) – a transformation language that formats styled XML data for document rendering
5. Hyperlink – embedded instruction within a text file that links it to another point in the file or to a separate file
6. Hypertext markup Language (HTML) – the traditional authoring language used to develop Web pages for many applications
7. Metalanguage – a language used for creating other languages
8. Tags – special pieces of code, enclosed in angle brackets, that tell the HTML interpreter how to process or display text
9. World Wide Consortium (W3C) – an international industry consortium founded in 1994 to develop common standards for the World Wide Web

## **Unit 8: Web Page Structure – Tables and Framesets**

1. Dynamic – constantly changing
2. Frame – a scrollable region in which pages can be displayed; a single element of a frameset
3. Frameset – a web page that defines a set of frames in which other web pages are displayed

## Unit 9: Cascading Style Sheets

1. Cascading style sheets – multiple and overlapping style definitions that control the appearance of X/HTML elements
2. Inheritance – the principle of passing on style definitions from parent elements to child elements
3. Inline style – a style attribute added directly within HTML tags
4. Style guide – a book, manual or guide specifying rules and examples of usage, punctuation, and typography; used in preparing text for publication
5. Style sheet – a predefined HTML document structure that includes heading fonts, text, layout commands, graphic object placement, and other design guidelines

## Unit 10: Site Content and Metadata

1. Metadata – data about data

## **Unit 11: Site Development with Microsoft FrontPage**

1. Dynamic HTML (DHTML) – a combination of technologies (HTML 4.0 and later, script, CSS and the Document Object Model [DOM]) that provides Web page interactivity
2. FrontPage themes – pre-designed site styles in FrontPage

## Unit 12: Site Development with Dreamweaver

1. Absolute positioning – a cascading style sheet (CSS) is used to specify the exact pixel position of elements
2. Behaviors – a type of dynamic event that can be applied to an object; usually an event (i.e. click rollover, etc.)
3. Dreamweaver – a GUI Web page editor produced by Macromedia, Inc; both an X/HTML page creation tool and a Web site management tool, offering the capabilities to organize and structure entire Web applications
4. Dreamweaver Assets and Library – tools that can be used during development to store objects and files that will be used repeatedly
5. Dreamweaver Exchange – a developer area or forum by Macromedia which provides Dreamweaver developers with a place to download and submit Dreamweaver extensions
6. Jump menu – a drop-down menu that automatically links to a specified URL when the user makes a selection
7. Layers – objects in Dreamweaver that can be moved around individually
8. Z-index – the stacking order for overlapping layers in Dreamweaver

## **Unit 13: Web Pages with Homesite 5.5**

1. HomeSite – an advanced code-only Web site editor
2. Link-verification wizard – checks the status of links in one or more Web documents
3. Tag Chooser – a feature in HomeSite that allows the user to view and choose tags from multiple languages, including HTML 4.x, XHTML 1.0, and various programming and scripting languages
4. Tag Completion – a feature in HomeSite that automatically adds a closing tag when a tag is typed



## **Unit 14: Image Editing with Fireworks**

1. Fireworks – a vector and raster (bitmap) image-editing applications; designed for the development of Web pages
2. Slices – a feature in Fireworks that allows graphic designers to easily divide large images into smaller images for use on Web pages

## Unit 15: Multimedia with Flash

1. .fla – the file extension when a Flash movie is created
2. ActionScript 2.0 – the language used to write actions in Flash
3. Blank keyframe – a milestone Flash frame that contains no content; keyboard shortcut is F7
4. Flash – the standard for high-end multimedia Web sites and presentations
5. Flash Library – allows the user to customize and organize stored items into folders
6. Guide layer – a specialized type of layer created from the layer panel in Flash
7. Keyframe – a Flash frame containing objects that will be displayed in all frames following it, until the timeline encounters another keyframe or blank keyframe; keyboard shortcut is F6
8. Mask – a special type of layer that covers an area of the stage, allowing a part specified by the user to show through; effect is similar to looking at a stencil
9. Motion tween – Flash animation in which objects move from one location to another on the stage.
10. Normal frame – a Flash frame that is designed to extend the movie to a certain point along the timeline; keyboard shortcut is F5
11. Onion skins - brackets used in Flash that allow the user to select frames in order to edit them simultaneously; helpful for aligning elements from multiple frames
12. Shape tween – flash animation in which objects change their shape or form on the stage
13. ShockWave-Flash (SWF) – created when the .fla format is converted and compressed
14. Symbols – a graphic, a button or a movie clip that is stored in a Flash movie's library
15. Timeline – a series of movie frames in Flash
16. Tweening - term used to describe animation or motion of an object in a Flash movie

## Unit 16: JavaScript and DHTML Fundamentals

1. Alert( ) method – a simple JavaScript method that allows the programmer to communicate with the user
2. Concatenation – linking two or more units of information, such as strings or files, to form one unit
3. Document Object Model (DOM) – provides a language-neutral way for programs to access and modify the content, structure and style of SML, and more specifically X/HTML, documents
4. Dot notation – used to show the hierarchical relationship between objects (object, property, and method)
5. Dynamic HTML (DHTML) – a combination of technologies (HTML 4.0 and later, script, CSS and the Document Object Model [DOM] that provides Web page interactivity
6. Event – a single action or occurrence, such as a click of the mouse or the pressing of a key
7. Function – a way of combining tasks to be performed
8. Java – a full-fledged programming language
9. JavaScript – a client-side scripting language
10. Method – an action performed by an object
11. Object – a programming function that models the characteristics of abstract or real objects using classes
12. Open( ) method – gives the programmer the ability to open new windows and populated them with existing information
13. Platform independence - runs on various different types of operating systems
14. Prompt( ) method – allows the programmer to ask the user a question and capture his or her answer
15. Property – a characteristic, such as a color, width or height, that the programmer stipulates in the creation of the object
16. Sniffer – a code application that determines status; a piece of code that determines which browser to use, and then takes a specific action depending on the browser type

## Unit 17: Plug-Ins and Java Applets

1. Downloadable file – a files that users must save to their client systems before they can open it
2. Java – a programming language derived from C++
3. Java applets – mini Java applications created to run inside the browser
4. Plug-in – a program installed as a part of the browser to extend its basic functionality; allows different file formats to be rendered via the browser
5. Portable Document Format (PDF) – a file format that can be transferred across platforms and retain its formatting
6. Stream – a continuous flow of data, usually sound or image files, that creates a seamless delivery of those files into a browser

## Unit 18: HTTP Servers, Web Applications, and Database

1. Apache server – most commonly used HTTP server on the Web
2. Common Gateway Interface (CGI) – a simple protocol that can be used to communicate between X/HTML forms and an application
3. Cookie – information sent between a server and a client to help maintain state and track user activities; can reside only in memory, or be placed on a hard drive in the form of a text file
4. Database Management System (DBMS) – an application that allows users to manipulate information in the database
5. DELETE statement – a query used to remove records from a database table
6. Domain Name System (DNS) – a system that maps uniquely hierarchical user-friendly domain names to specific numerical IP addresses
7. Fields – columns in a database
8. INSERT statement – a query used to create new database records
9. Menu query – the user is offered a list of options from which to choose in a database
10. Microsoft SQL server – the high end database application from Microsoft
11. Open Database Connectivity (ODBC) – a standard method for accessing a database regardless of which database management system (DBMS) or application program is used
12. Oracle – top-of-the-line database, large and very powerful
13. Port – an integer from 0 to 65535 representing a particular path for information flow; a specific protocol is typically associated with a particular port
14. Query by example – the user states which fields and values are to be used in the query in a database
15. Query language – a specialized language called Structured Query Language (SQL) that is used to retrieve or manipulate information in the database
16. Really Simple Syndication (RSS) – a standard XML application that contains basic information about the content of a Web site
17. Records – rows in a database that are a complete set of information
18. Relational DBMS (RDBMS) – a database management system that stores related information in a collection of tables
19. Schema – the structure of a database system and often depicts the structure as a graphical reference
20. Secure XML – XML data that is encrypted then transmitted over the Internet using digital signatures to ensure privacy and data integrity

21. SELECT statement – a query used to retrieve information from the database
22. Structured Query Language (SQL) – considered the standard language for accessing information from a database; pronounced "see-kwell"
23. UPDATE statement – a query used to modify existing database records

## Unit 19: Web Site Publishing and Maintenance

1. Brute-force attacks – occurs when someone tries any of various techniques to hack straight into a server, usually without any specific knowledge or information about the server, and often with the help of scripts written for this purpose; the most frequent type of attacks on servers
2. Denial-of-service (DOS) attacks – an attack on a server that consumes all of the server's available network bandwidth and thus causes a loss of service to users
3. File Transfer Protocol (FTP) – an internet protocol used to transfer files between computers; allows file transfer without corruption or alteration
4. Social engineering – a practice hackers use to try to trick people into revealing sensitive information; an example is phishing